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*Pogonias cromis* (L.), *Pinguipes fasciatus* Jenyns, *Chilodactylus macropterus* (Schneider), *Helicolenus dactylopterus* (De Lar), *Prionotus punctatus* (Bloch), *Paralichthys brasiliensis* (Ranzani), *Percophis brasiliensis* Quoy and Gaimard, *Genypterus blacodes* (Schneider), *Phycis brasiliensis* Kaup, *Merluccius gayi* Guichenot.

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### GRAND CANYON NOTES.

On a first and brief visit to the Grand Canyon of Arizona, June 6-10, 1916, en route to California, as might be expected, little time was available for herpetological observations. The few notes that were taken seem worth recording, chiefly because they come from a region of such extraordinary interest.

Two days were spent in conventional trips along the rim of the Canyon, the third day on a walk down the Bright Angel Trail to the Colorado River, and the fourth and last day in Camp near the Indian Garden on the inner plateau of the Canyon.

The dry season being well advanced, no batrachians, but many lizards of the genera *Sceloporus* and *Holbrookia*, were seen on top of the Canyon. Lizards in the Canyon averaged larger in size, and in addition to the genera mentioned included *Crotaphytus*, *Gerrhonotus* and *Cnemidophorus*. A specimen of *Sceloporus clarkii* captured in the Indian Garden is still living in the New York Zoological Park.

Two Batrachians—*Hyla arenicolor* and *Bufo punctatus*—were common in the Canyon.

*Hyla arenicolor* was observed along the small stream which runs through the Indian Garden, enters a narrow inaccessible gorge and reappears at the foot of the Bright Angel trail near the Colorado River. Dense thickets of willow, sedges, etc., border the stream, except at trail crossings, where clear, shallow pools have formed. In and about these pools the

frogs were most numerous, some still mating. No ova, but plenty of tadpoles were found in the water.

The tadpoles were about one inch long; uniformly dark gray above and iridescent light gray below; tail broad, heavily marbled, dark gray; eyes golden. The adult frogs averaged about two inches in body length, and were uniformly light gray above, with numerous minute spots and granulations, giving the skin the appearance of roughness.

The call of this frog is lower in pitch, but is otherwise very much like the bleating notes of *Hyla versicolor*. It was heard, occasionally, during the day, increased in volume towards dusk, and continued through the night. Only two of eight specimens, captured and sent to the New York Zoological Park, arrived alive.

*Bufo punctatus*, without doubt, is the most abundant of Batrachians in the Canyon, yet so secretive and strictly nocturnal is this toad that none are likely to be encountered, except after dark. During the one night spent in the Canyon its call, mingling with that of *Hyla arenicolor*, was the dominant sound of animal life. Search for the toads with an acetylene lamp revealed such numbers that no attempt was made to count them. There were hundreds—many on the trail and many more in the shallow pools in the Indian Garden. None were seen mating, but their small, black tadpoles, not exceeding half an inch in length, were swarming along the margin of the stream. Breeding evidently had taken place during May.

In size as well as in general appearance there is so little difference between this toad and *Hyla arenicolor* that one might easily be mistaken for the other. The call, though loud, is not harsh and consists of a series of deep, whistling notes, repeated at short intervals.

At least two more species of frogs are to be found along the stream in the Indian Garden. Of one, a

species of *Rana*, the tadpoles, fully two inches in length, were seen in the pools. Several times during perhaps an hour, a short, deep croak was heard coming from the willow thickets. It reminded the writer of *Rana palustris*.

Of another frog only the call, a soft click-click-click, was heard. It came from a cluster of aquatic plants in the middle of a pool, but the songster, undoubtedly a very diminutive creature, could not be found.

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### A NEW RECORD FOR THE RING-NECKED SNAKE IN MICHIGAN.

A specimen of *Diadophis punctata* (L.), captured near Marquette, has been presented to the Museum of Zoology, University of Michigan, by the Northern State Normal School. This is of interest not only as a new locality for the snake but also because it extends the known range of the species considerably, since it is the first authentic record of its occurrence in the Northern Peninsula. The species had been reported from Marquette, but, in view of the fact that young *Storerias* may be easily mistaken for ring-necked snakes, this record has been "open to question," as stated by Ruthven in the "Herpetology of Michigan."

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### HABITS AND BEHAVIOR OF THE TEXAS HORNED LIZARD, *Phrynosoma* *cornutum*, Harlan, II.

An interesting fact mentioned by many writers, and easily confirmed, is that the horned lizard is very sensitive to the stings of the large agricultural ants which form its principal food. The lizard will fidget